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Ways to avoid problematic situations and negative experiences: Children's preventive measures online

Abstract: This article maps the various preventive measures 9 to 16-year-olds may take when confronted with problematic online situations, and it assesses how they differentiate preventive strategies based on online risk types. Boys and girls are compared and potential changes in preventive measures as they grow older are discussed. The reality of preventive measures is complex: Young people adopt different types of preventive measures depending on the perceived seriousness and potential harm of the risky situation at hand. *Proactive problem-preventing* measures are favored while *support seeking* is clearly a less common strategy in preventing unpleasant situations online. Cognitive strategies such as *planning, strategizing and reflecting* are also quite common among children's intent on avoiding risky online experiences, and they can spur them on from mere awareness to concrete preventive action.

Keywords: preventive measures, online risks, youngsters, online safety, online coping

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1 Introduction

1.1 Dealing with problematic online situations – Preventive measures and reactive coping

Online opportunities and risks go hand in hand. Evidence from the EU Kids Online survey suggests that children do recognize these two sides of the internet. Across Europe 45% of the 9 to 16-year-olds agree that the internet has a

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lot of good things to offer, while 55% indicate that some things online are bothersome for children their age (Livingstone, Haddon, Görzig, and Olafsson, 2011). Examples of problematic online situations are unwelcome messages from bullies or strangers, shocking, aggressive, or sexual images, or misuse of personal information (Livingstone, Kirwil, Ponte, and Staksrud, 2013). Young people's acknowledgement of both opportunities and risks online is indicative of their awareness of potentially problematic situations, which in turn motivates them to think about ways to avoid online negative experiences and take precautions (Kowalski, Limber, and Agatston 2008; Parris, Varjas, Meyers, and Cutts, 2012). However, not all unpleasant experiences can be avoided: Sooner or later, many youngsters are directly or indirectly exposed to some kind of problematic online situation (Livingstone et al., 2011). Nevertheless, such an experience can be very meaningful, inasmuch children learn from their mistakes and those of others. Previous experiences can help identify signs of potential problems and prevent renewed involvement and/or continued harm. For cyberbullying, it has been shown that effective (reactive) coping strategies are instrumental in subsequent prevention and discontinuation of victimization (Jacobs, Dehue, Völlink, and Lechner, 2014). In the context of cyberbullying, non-victims can proactively seek support to change the situation and avoid being victimized (Völlink, Bolman, Dehue, and Jacobs, 2013). Moreover, individuals with good proactive skills tend to allocate different types of coping strategies in more effective and efficient ways: When confronted with the actual stressor, they are better capable of switching between various (preventive) strategies (Aspinwall and Taylor, 1997; Folkman and Moskowitz, 2004). In other words, prevention of online risks and attempts to root them out are the two sides of the same coin. The baseline for this study is the idea that theoretical insights about reactive coping responses are useful in understanding and explaining how young people preventively handle problematic online situations.

Preventive measures are inherently future-oriented and can be understood as a set of actions or strategies undertaken prior to a stressful or potentially harmful situation. It is an attempt to reduce the likelihood of its occurrence and/or its negative impact (Aspinwall and Taylor, 1997; Folkman and Moskowitz, 2004; Parris et al., 2012). This risk/impact-reduction intention is crucial to the way preventive measures are conceptualized in this study. It includes both initiatives aimed at preventing initial exposure and strategies meant to avoid escalation or continuation of an unpleasant experience. Because preventive measures take place prior to the (re-)occurrence of an unpleasant situation, they are virtually always proactive – tackling the cause of the potential problem. Cognitive coping and emotion-focused coping, which focus on buffering negative feelings, are therefore considered as rather ineffective in this prevent-

ive stage, unless accompanied by specific behavioral actions (Aspinwall and Taylor, 1997). In general, preventive, proactive efforts are viewed as beneficial. Besides the lower levels of stress experienced prior to and during an unpleasant encounter, addressing a potential stressor at an early stage is beneficial in terms of resources: Fewer efforts are needed and more coping options are available when the problem has yet to completely unfold. Those who wait to take action until the problem is in its full-blown state will probably have to invest more resources and put more efforts in eradicating it. Ultimately, as the unpleasant consequences of an event can be avoided or minimized, preventive measures also reduce the degree of chronic stress (Aspinwall and Taylor, 1997). Nevertheless, preventive actions do have drawbacks. Because stressors are often ambiguous or nebulous in the preventive stage, people may invest in plans or strategies that ultimately turn out to be unnecessary or ineffective and therefore a waste of resources. Another downside is the risk of hyper-vigilance, which refers to people who are constantly trying to avoid minor and major potential stressors and may result in emotional turmoil and cognitive fatigue (Aspinwall and Taylor, 1997).

Since young people have become increasingly active online, researchers have started to investigate coping behavior in online environments. Although specific studies on online coping remain limited, parallels between coping behavior in offline and online contexts can be identified: Studies on tackling cyberbullying have indicated that general (offline) coping and cyber-specific coping are strongly correlated (Perren et al., 2012; Völlink, Bolman, Eppingbroek, and Dehue, 2013). Recurring strategies for victims of (online) bullying are (1) seeking instrumental and emotional support from peers or parents, (2) using so-called 'technical strategies' to solve the problem (such as deleting messages or 'blocking' the perpetrator), (3) ignoring or avoiding the problematic situation by not replying to the aggressor or not logging in for a while, (4) accepting the hostile situation as a part of life and using emotional regulation or diversion tactics to focus on other things and (5) confronting the bully for constructive rehabilitation or retaliation (Parris et al., 2012; Perren et al., 2012; Šléglová and Černá, 2011). In Perren et al.'s (2012), conceptualization of such responses are classified as reactive strategies to combat cyberbullying. Nevertheless, under condition of a favourable, awareness-raising, supportive environment both at home and at school, these tactics could also be used preventively to avoid the (re-)occurrence of victimization. Thus children can learn – through school awareness-raising campaigns, parental advice or interventions from peers – that it makes sense to 'block' people with a bad reputation or ignore weird messages in order to avoid getting involved as victim (Kowalski et al., 2008). Other proactive strategies children use to reduce the risk of getting

(re-)involved in problematic online situations include avoiding certain websites or platforms, increasing security measures (e.g., changing settings or passwords, installing a spam filter), not disclosing some types of personal information and talking to people so as to gain a better understanding of the situation or acquiring knowledge about safe online behavior (Kowalski et al., 2008; Parris et al., 2012; Vandoninck, d'Haenens, and Donoso, 2010).

1.2 Impact of children's development, personality and environment on problem-handling

As children grow older their meta-cognitive skills become more elaborated, which can facilitate the development of proactive behaviour. In general, adolescents tend to use a wider variety of strategies – especially more cognitive forms of coping – than pre-adolescents. Despite this increase in proactive capacities adolescents could also be more vulnerable as they are more likely to be overwhelmed by emotions and tend to internalize negative experiences more easily (Skinner and Zimmer-Gembeck, 2007). Although some developmental processes are universal, young people's capacities to deal with stressful situations are not fixed at birth. Personal experiences with stress and the social ecological context contribute to how young people deal with unpleasant situations online and offline, both in a preventive and reactive way (Jacobs et al., 2014; Masten, 2007; Skinner and Zimmer-Gembeck, 2007). Children, who are easily aroused by unusual events, experience more difficulties with the disorganizing effects of stress. Conversely, children with a more active, sociable, and emotionally positive temperament are more resistant to the negative effects of stress, and they come up more often with constructive problem-solving and information-seeking strategies (Skinner and Zimmer-Gembeck, 2007). Other characteristics positively related to proactive preventive behavior are self-regulation, self-efficacy and optimism (Aspinwall and Taylor, 1997). On the contrary, information processing and correct appraisal of potential stressors are inhibited when someone is more anxious, worried or depressed and when levels of self-esteem and perceived control are lower. This results in less proactive preventive measures and a higher tendency to ignore the potential stressor, which ends in avoidance coping (Aspinwall and Taylor, 1997). Similar tendencies are found when it comes to dealing with problematic situations in online environments. Regarding the way in which (potential) victims react to online bullying, the main determinants have been found to be psychological (i.e., awareness, self-esteem, self-control) and environmental (i.e., parental monitoring, media awareness campaigns, quality of social support) (Jacobs et al., 2014). The cross-national

data from the EU Kids Online study indicates: While older children are more likely to use problem-solving strategies when facing problematic online situations, younger children tend more towards support-seeking. Furthermore, the EU Kids Online findings show that boys and girls differ in the way they handle problematic online situations. Girls are much more talkative, regardless of age: They are more likely to turn to others for support and/or information (Livingstone et al., 2011; Vandoninck, d'Haenens, and Donoso, 2010). Additionally, the EU Kids Online results show that children with low self-efficacy and emotional problems experience negative feelings and harm more often. They respond more often in a passive or fatalistic way. Such behavior is indicative of a lower ability to identify problem-solving opportunities and effectively apply coping resources (d'Haenens, Vandoninck, and Donoso, 2013).

1.3 Towards new models

The literature mostly discusses reactive forms of coping, which are generally defined as strategies that people use to deal with stressors or adverse situations. Such strategies can be emotional, cognitive or behavioral responses meant to manage both the internal and external demands of stressful situations (Lazarus and Folkman, 1984; Skinner and Zimmer-Gembeck, 2007).

A first common criticism of the traditional models of coping refers to their dichotomous approach, that is, Lazarus and Folkman's transactional model (1984) and Roth and Cohen's approach-avoidance model (1986). Problems include overlapping categories as well as difficulties in labeling multiform responses. Most scholars agree there is a strong need to move beyond such dichotomous categorizations, and several attempts have been made to rethink the traditional coping models with more attention devoted to cognitive coping styles (Folkman and Moskowitz, 2004) and emotional expression (Völlink, Bolman, Eppingbroek & Dehue 2013). One suggestion is hierarchical management of coping strategies (Skinner, Edge, Altman and Sherwood, 2003; Skinner and Zimmer-Gembeck, 2007; Tenenbaum, Varjas, Meyers, and Parris, 2011). According to this model, and looking at problematic situations in general, youngsters have a strong preference for support-seeking problem-solving through instrumental action, escape and (when escape is not possible) distraction or accommodation (Skinner and Zimmer-Gembeck, 2007). Children's developmental stage and personality characteristics determine which coping strategies are applied (see above). Other models emphasize the importance of emotion-focused coping. With respect to cyberbullying, the following coping styles were identified: depressive/emotional coping, seeking social support and avoidance/palli-

ative coping and confrontation (i.e., constructive or destructive activities directed at the aggressor). It was concluded that victims and perpetrators show more emotional responses and less palliative coping compared to non-victims (Šléglová and Černá, 2011; Völlink, Bolman, Dehue & Jacobs, 2013).

Another critique of the traditional coping models is related to their reactive nature, and their focus on actions and strategies after a stressful event has occurred while attention to the preventive side of coping remains largely absent (Aspinwall and Taylor, 1997; Parris et al., 2011). Although findings about reactive coping help understand how children handle online risks, preventive aspects need further investigation to draw a more complete picture. So far, children's preventive strategies in dealing with online risks have been underexplored. Making use of the qualitative EU Kids Online data, this study aims to shed light on what they actually do to avoid or prevent problematic online situations. This brings us to the following research questions:

[RQ1] Which online risk prevention measures do youngsters mention? Which preventive measures are typical for each type of (potentially) problematic situation?

[RQ2a] Which preferences do boys and girls have with respect to preventive measures?

[RQ2b] In what way do preventive measures change as children grow older?

2 Method

2.1 EU Kids data collection[1]

In an effort to better understand children's and adolescents' perceptions and experiences of problematic online situations, the EU Kids Online network held 113 individual interviews and 57 focus groups with children aged 9 to 16. In total, 374 children (187 boys and 187 girls) from nine different European countries (Belgium, Czech Republic, Greece, Italy, Malta, Portugal, Romania, Spain, UK) were asked to explain what they see as problematic or harmful online, what they do to prevent problematic online situations from happening and how

1 For more detailed information about participants' recruitment, focus groups organization and composition, and interviews, see Smahel, D., Wright, F. M., and Cernikova, M. (2014). Classification of online problematic situations in the context of youths' development. *Communications – European Journal of Communication Research*, 39(3) (this issue).

they cope with unpleasant situations. For the focus groups, children were divided into three age categories (9–11, 11–13 and 14–16),[2] apart from two groups with 9 to 11-year-olds in Malta, single gender focus groups were organized. The EU Kids Online topic guide's central theme is how children perceive online risks, in which the notion of *preventive measures* is discussed further.[3] For this article, we will only focus on what the children had to say about the strategies they deploy to avoid problematic situations or negative experiences when going online, or how they protect themselves from them. The analysis includes both what they have actually done and what they intend to do in anticipation of a problem. Finally, it only takes into account those preventive actions initiated by the children themselves. While parents, peers, teachers or other caregivers often initiate preventive behavior, we feel this topic is closely related to mediation practices and as such goes beyond the scope of this article.

2.2 Analysis procedure

Using QSR Nvivo 10 software all quotes labelled as *preventive measures* were filtered out.[4] Next, all these relevant quotes were coded into main categories and subcategories using a thematic analysis template (Cassel and Symon, 2004; Guest, MacQueen, and Namey, 2012). This template was developed as part of an iterative process, both theory-driven and data-driven. The research team started out with an initial template containing a limited number of predefined codes based on literature about preventive measures and coping, the EU Kids topic guide and previous research experiences. This initial template – which is a preliminary overview of possible types of preventive measures young people may use to avoid unpleasant or problematic online situations – was revised numerous times after coding a subset of data (about 13 % of the total amount of quotes) and several discussions within the research team. Inadequacies and gaps were revealed and categories were redefined, deleted, inserted and moved in the hierarchy. This iterative process ultimately resulted in the creation of a final template (see Figure 1).

2 Depending on the country's school system, 11-year-old children were categorized into the youngest group (primary school) or the middle-aged group (secondary school).

3 For more details on the structure of the topic guide and examples of questions, see Smahel, Wright, and Cernikova, 2014.

4 For more details on the labeling procedures of the quotes, see Smahel, Wright, and Cernikova, 2014.

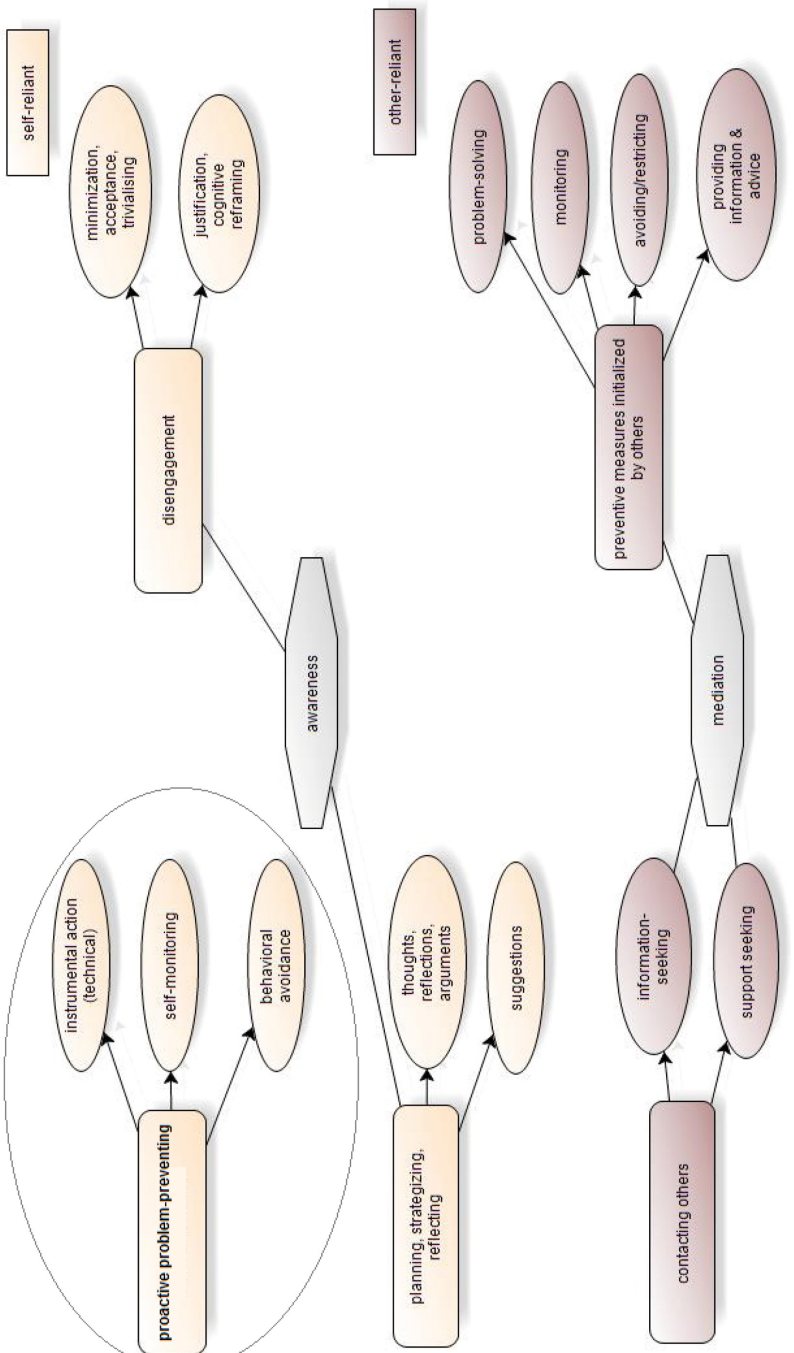

Figure 1: Final template for preventive measures.

In a next step, tree maps were generated for each type of online risk.[5] This method provides us with a visual overview of the number of quotes within each preventive measure category, and it lets us see which preventive measures are more common for each type of online risk. For each category of preventive measures, all relevant quotes were then filtered out separately, and several readings took place to get a more complete understanding of how young people try to avoid problematic online situations. A parallel strategy was used to compare boys and girls as well as the three age groups. First, a tree map was generated for each group to get an overview of which preventive measures were more common within this group. Second, quotes were filtered out and read separately for each preventive measure category to better understand the respondents' preventive behavior.

Because of the huge amount of data (more than 4000 quotes about *preventive measures*) and our interest in comparing different groups based on gender and age, a template analysis approach was considered appropriate to analyze the material (Cassel and Symon, 2004; Guest, MacQueen, and Namey, 2012). The analysis method lies halfway between the quantitative and qualitative approaches. Nevertheless, the combination of the tree maps (based on the number of quotes within each category) and subsequent interpretative reading of the relevant quotes within each preventive measure category yielded valuable data. It is made for easy visual comparisons of what is going on within each group on a general level while allowing in-depth reading of relevant quotes. The researchers did not intend to conduct a grounded-theory-based qualitative inductive analysis nor did they want to identify processes at the level of the individual. Rather, this qualitative data EU Kids Online collection offers the opportunity to expand our knowledge on the range of preventive measures various groups of young people resort to in specific online situations, accumulating theoretical notions and insights on the ways they handle (potentially) unpleasant situations.

3 Results

First, we aimed at identifying the most salient online risks youngsters are dealing with. We looked at the prominence of specific types of situations in our

5 The EU Kids Online team identified eight types of online risks: unwelcome contact with strangers, online bullying, sexual risks, other unwelcome content, commercial risks, personal data & privacy misuse, technical problems, health problems & overuse. For more details, see Smahel, Wright, and Cernikova, 2014.

conversations with them, as well as the commotion provoked by certain incidents (developed by Smahel et al. in this volume). Contact with strangers, misuse of personal data, online bullying and issues around sexual content or communication turned out to be highest on the children's agendas. Hence, our further analyses of preventive measures will focus on these four types only. Owing to the prominence of the *proactive problem-preventing strategies* category, we will focus on this type of preventive measures only as part of the risk-specific analyses (circled in grey in Figure 1).

3.1 General preventive measures

Across all types of risks the tree maps indicate that by far the dominant preventive measure category is that of *proactive problem-preventing strategies*, defined as actions and strategies aimed at tackling the potential stressor and finding an effective way to avoid the problem. This prominence of proactive problem-preventing strategies comes as no surprise as some authors have argued that preventive measures are virtually always active. Cognitive and emotion-focused coping is traditionally viewed as rather ineffective in the proactive stage, unless it is accompanied by specific behavioral actions (Aspinwall and Taylor, 1997).

Within this main category, *instrumental actions* are the most important subgroup, which can be defined as concrete actions or behavior intended to prevent a problem from happening. Most instrumental actions are so-called (a) technical measures requiring digital skills, such as changing or optimizing (privacy) settings, installing filters, blocking contacts or using mechanisms to report misuse. Besides these, instrumental actions can be (b) non-technical – for instance, taking another person to a meeting. Another popular way of avoiding potential problems is *self-monitoring*, which is defined as controlling or limiting one's online activities and disclosure of personal information. Self-monitoring is mainly about (a) accepting certain friending requests only, (b) not disclosing too much personal information, (c) only posting neutral and non-intimate pictures and (d) controlling or limiting communication with certain people. This strategy strongly reflects the 'think before you post' principle. Sometimes, children also limit their online activities to applications or platforms known as safe. A third subcategory consists of *behavioral avoidance*, which is (temporarily) disabling or staying away from platforms or applications and avoiding some online activities or actions. This is mainly about (a) avoiding certain practices, applications or platforms, (b) avoiding online communication with certain people or about certain issues, most often by ignoring people and (c) avoiding to click on suspicious content. Examples are rejecting friend requests, not answer-

ing or ignoring messages, or staying away from certain (online) practices such as taking sexy pictures.

The second main category – *planning, strategizing and reflecting* – involves so-called cognitive strategies: Careful deliberation about ways to prevent (hypothetical) problems. This category lies close to awareness building inasmuch it is about what is going on in children's minds rather than actual behavior. Many youngsters spontaneously expressed their thoughts, reflections and arguments to explain how they (would) prevent risky situations. Nevertheless, steps such as constructing scenarios about what they (would) do when they are at risk, thinking about specific criteria to decide when something is risky or talking about the circumstances that make a situation risky or safe are crystallizations of mere awareness and a crucial step in the preventive process. The first subcategory consists of (a) *thoughts, reflections or arguments,* for example: criteria for adding new people to SNS contact lists. Sometimes, such critical thoughts are also accompanied by actual preventive behavior, for example: by ignoring a friending request. In a second subcategory, participants make (b) *suggestions* or give advice to other stakeholders (e.g., parents, teachers, industry) about ways to increase online safety and reduce the risk of negative experiences. Examples are age-ratings for certain online content or tips for interventions at school to reduce victimization through cyberbullying.

While both of the above main categories are self-reliant, the third main preventive measure category is other-reliant. On a less frequent basis, children sometimes feel the need to *contact others* when trying to avoid risky or unpleasant situations. They turn to additional sources to find out what they should do or to make sure their intended preventive actions would be helpful. *Contacting others* should be understood very broadly as it also includes consulting online or non-personal sources such as websites, profiles, videos, offline media, online helplines, etc. Because of the involvement of the child's social context, this category is related to the area of mediation. Children rely on others for (a) *information seeking*. One motive is the feeling that their skills and knowledge are insufficient to protect themselves, for example: when it comes to password security, protection of personal information, unsafe websites, etc. Another motive for information seeking is uncertainty reduction, such as screening people's profiles or talking to others to gather more information about a person or situation. A typical example is searching for more details on the person who sent them a friend request; they want to make sure that the profile is not fake, and the person sending the request does not have bad intentions. Children also contact others for (b) *support seeking*. This can be instrumental aid, such as: advice, help or feedback about planned actions or strategies. It can also be

support in the sense of reassurance and comfort. The latter is more about confiding and sharing experiences.

The fourth main category is *disengagement* – that of children who explicitly say they do not do anything to prevent a problematic situation from happening. Although the interview guide did not include specific questions on motives or arguments for not taking any preventive measures, some participants spontaneously said why they chose not to undertake anything to avoid problematic online situations in some cases. There is a strong link with awareness because lack of interest or involvement in the situation is often the cause of such non-action. In the (a) *minimization, acceptance and trivializing* subcategory the children accept the situation as a part of life. They generalize the situation, claiming that there is nothing unusual in having such issues. Another type of disengagement is (b) *justification*, where children say they do not perceive a situation as problematic or worth getting upset over. Tactics of cognitive reframing are included in this subcategory because some children try to reframe the issue as non-risky in an attempt to absolve themselves for not taking any preventive measures.

Preventive measures are not always initiated by the children themselves. Frequently, it is another person, mostly a parent or teacher, who takes the initiative. These references are grouped in a separate category of *preventive measures initiated by others* with four subcategories: problem-solving, avoiding/restricting, monitoring and providing information/advice. However, as the focus of this article is on self-initiated preventive measures, we will not discuss this category any further.

3.2 Risk-specific preventive measures

3.2.1 Unwelcome contact with strangers

In the participants' efforts to avoid unwelcome contact with strangers, the major proactive strategy is self-monitoring pursued by behavioral avoidance tactics. While instrumental action is not the main preventive approach here, it is still a popular strategy.

Self-monitoring one's contacts or friends lists is considered useful to weed out unwelcome messages from strangers. To avoid problems, being cautious in accepting friending requests is recommended. Some youngsters are more careful than others, but criteria frequently mentioned are only accepting people one has actually met at least once, people from one's own town or school, people of about the same age or people with a sufficient number of mutual

friends. Additionally, participants mention that one should be careful with people having 'weird' names (e.g., foreigners), people without a clear profile picture or people one has never talked to on the phone or webcam.

> Girl (14-year-old, Belgium): *I look at, for example, the place where the person lives … if I know that the person lives in the same town, I would add him as a friend. But when I see that the person lives in a different city, I won't add him … because I don't really know the person. You can also look at mutual friends. When my classmates or friends are mutual Facebook friends with this person, then I add the person.*

Regarding communication with strangers, participants recommend not to comment on posts from people one does not personally know and to limit online communication to close friends only. Controlling communication is especially relevant on gaming platforms. In a game's chat application, one should only talk about the game itself, not personal things. Some players go a step further by only talking to players whom they know personally, or they only use game platforms that are monitored and where offenders are expelled. A very popular practice in uncomfortable situations with strangers is simply to ignore questions, comments or messages. Some participants are more cautious when it comes to strangers and avoid any kind of communication, even about trivial or 'innocent' topics.

3.2.2 Online bullying

Instrumental action is the preferred proactive strategy in the case of potential victimization through online bullying and harassment with self-monitoring being the second most important preventive strategy. Behavioral avoidance tactics are least popular within the category of proactive strategies.

Many young people turn to so-called *technical instrumental actions* such as deleting unwelcome friending requests, unfriending, unfollowing or blocking people one does not want to hear from or showing oneself as 'offline' or 'invisible' so others cannot disturb them. These strategies are perceived as helpful because they prevent (potential) perpetrators from sending unwelcome content. Sometimes, participants mention the use of report buttons. Especially when profiles are fake or when people insult others in games or virtual worlds, young people consider using a report button. Also *non-technical approaches* like never disclosing one's password or choosing a very difficult password are strategies that should protect youngsters from online harassment.

> Boy (13-year-old, Malta): *I go into their profile and block them. Depends what they ask me. If it's something that is relevant, or like, I don't know. If it's something abusive – straight away I block. If it is a message that makes sense I go to their profile and check; if I don't like what I see, I block as well.*

Besides these, some instrumental actions are connected with *communicative strategies* such as information seeking and support seeking. When feeling uncomfortable about (potential) bullies, several participants claimed they (would) talk with their parents to develop an adequate strategy to avoid getting involved. Another recurring strategy is direct personal communication with (potential) perpetrators of online bullying or sexting, both in online and offline settings. Mostly, the intention is to prevent further escalation, either by explaining why the person is not pleased with the situation or by informing others what exactly happened. For example, in case of a hacked profile or account, the victims would warn their network through other communication channels in order to avoid misunderstandings that might turn into fights. However, in some cases, the intention is malicious. And the aim is to get back at the (potential) perpetrator or take revenge. Finally, although this could probably save them a lot of trouble, only a very few participants told us they would first ask people's permission before posting photos or videos online.

Some participants claim that *self-control on how and with whom one communicates* can prevent one from online victimization. They prefer applications or platforms that allow one-to-one (private) communication and avoid posting messages or 'liking' things on profiles where everybody can see one's post and comment on it. To protect oneself from online bullying, it is considered better not to accept people with a bad reputation. Related to this, some participants point out that one has to make sure that profile settings are on 'friends only' not on 'public'. A few participants even go beyond this and intend to only share things with subgroups of friends they have a good and steady personal relation with.

Participants who experienced online bullying as bystanders sometimes turn to *behavioural avoidance* tactics such as deleting their account, disconnecting or going away from the platform or service. For example, when their friends or classmates had serious problems related to ask.fm, some participants decided to remove themselves from this platform by way of prevention. Some participants even claimed they would never create an ask.fm account because of excessive online bullying risks.

3.2.3 Personal data misuse

In attempts to avoid risks related to misuse of personal data, the main proactive strategy turns out to be self-monitoring, often combined with instrumental actions. Behavioral avoidance tactics are perceived as less helpful in the protection of personal data.

The participants expressed their concern about *sharing personal or intimate things online* and emphasized one should not post 'important' information: contact information (home address, phone number) and information about the place where one lives (pictures of one's home, geo-based information, or holiday locations). Youngsters believe this information could attract burglars or 'bad people'. In line with this, participants mentioned the importance of limiting oneself to neutral or non-intimate information and to only posting 'normal' pictures on which one looks decent, carrying out 'usual' social activities or group pictures with friends. Frequent posting about 'stupid' daily activities such as watching TV or having a meal is also frowned on by some participants.

> Boy (9-year-old, Czech Republic): *Strangers could pull out information from me and so on, and then rob a house. It's very simple; they would write where do I live and I would write it. They would find out how long my parents work and when I am at school, and they could simply rob it. But I do not have any strangers there anymore.*

A recurring technical instrumental strategy is *changing privacy settings* to 'friends only'. Some youngsters are even more restrictive and create a special group (e.g., group of classmates) with whom they share their pictures and contact information. As a protection against privacy abuse, a few participants mention the importance of correctly logging off their accounts, especially on public computers or public Wi-Fi zones.

Also related to privacy protection, a few participants believe that *covering the webcam* with some tape or paper protects against personal data misuse. Alternatively, some youngsters choose to give false or misleading information or choose a picture that does not show their face, expecting it should make them more anonymous and less easy to find in the online world. Participants also mention the importance of never disclosing one's password or choosing a very difficult one.

3.2.4 Sexual content and communication

In preventing unpleasant experiences resulting from sexual content or communications, behavioral avoidance is the most popular proactive strategy, closely

followed by instrumental actions. Overall, self-monitoring is not perceived as an effective approach in avoiding sexual risks online.

A practice that is most often recommended so as to avoid problems with sexting is simply *not taking sexy pictures or undressing in front of the webcam*. Surprisingly, both boys and girls believe it is the girls' responsibility to avoid these kinds of practices. While girls who take sexy pictures are labelled as 'stupid', it is considered more 'normal' for boys to accept and share these pictures. However, to prevent problematic situations, both boys and girls believe it is better not to accept, edit or share sexy pictures anyway, especially when the portrayed person is somebody one personally knows.

> Girl (focus group 11 to 13-year-olds, Italy): *Never post pictures where you seem older than you are, so I don't post pictures of myself half naked and I don't post pictures like that … where you have the tee shirt like that … maybe when you are with your friend, but I post normal pictures.*

In protecting themselves from exposure to (shocking) sexual content, a general trend among the participants was to claim they *avoid clicking on things that look weird, unfamiliar or suspicious*. Examples are commercials with pictures of scantily clad women or pop-ups about contests, etc. A few participants came up with a surprising argument for avoiding to click on sexual content: They believe this content is inappropriate for their age and that it could distort their ideas and beliefs on sexuality. Occasionally, youngsters move towards technical instrumental actions such as *installing software (anti-virus programs, ad blockers) or filters* to avoid exposure to unwelcome sexual or commercial content.

3.2.5 Gender and age matter

Both boys and girls acknowledge the importance of changing privacy settings as a protection against disturbing incidents online. Another common strategy is deleting or blocking unwelcome contacts (strangers, bullies) from their friends lists. Boys and girls also agree on not accepting friending requests from complete strangers. Criteria for accepting is a personal choice, but youngsters generally agree you should have seen the person at least once in real life before accepting a friending request. The 'think before you post' principle is high on both boys' and girls' minds; both groups disapprove of posting too much intimate details on profiles, frequent posting about trivial daily activities and disclosing contact information such as mobile number and home address. They

seem especially wary of divulging information about holiday destinations and geographical location.

When it comes to arranging meetings, girls are more suspicious and tend to pay extra attention to precautions such as taking another person to the meeting, only meeting in public spaces and in the company of mutual friends. When it comes to protecting themselves from being ridiculed, girls try not to look *silly or stupid* in pictures taken by others. Boys are more likely to avoid recognizable photos and select neutral pictures with a sports or game scene. To avoid shocking, gory or other disturbing content, the strategy of clicking away or scrolling further is popular among both sexes. Boys tend to think more about installing virus scanners, ad-blockers and filter software to avoid unwelcome content.

Girls more easily talk with parents and peers about (potentially) unpleasant situations online. They are more likely to talk to (potential) perpetrators in order to avoid misunderstandings and defuse the situation. Girls also express a stronger preference for applications that allow private or personal online communication (chat or private messaging) as a preventive measure against (online) fights and bullying incidents sparked by misunderstandings. Concerning sensitive or intimate topics, posting public comments on people's profiles is 'not done' according to the girls. A typical strategy for boys to protect themselves against personal data misuse is to use false information. They believe this creates confusion with potential perpetrators because it is more difficult to trace them online and disturb them.

Overall, older teenagers (14- to 16-year-olds) use more proactive measures to avoid problematic online situations. Yet, there are some similar concerns across all age groups: blocking, deleting, reporting or ignoring annoying people are recurring strategies to avoid problems with online contacts. All age groups also disapprove practices such as publicly sharing personal or intimate things, posting too frequently about trivial activities and disclosing contact information or location-based information.

Nevertheless, some differences were noticed between younger and older children. Older teenagers (14- to 16-year-olds) are more practiced with SNSs, which seems to go along with higher cautiousness about preventing incidents on such networks: They believe it is important to use private communication applications when talking about sensitive or personal issues. It is considered as 'not done' to start a discussion or fight on someone's profile, where all other online contacts are privy to what is going on.

When it comes to avoiding unsafe platforms or applications, the youngest children (9- to 11-years-old) are more likely to refer to age limits and age restrictions. Older teenagers favor or disapprove of a platform mostly because of concerns about bullies or misuse of personal information. Sometimes, young peo-

ple believe it is useful to click away, close down or deactivate programs or accounts to prevent further harm. Younger children do this mostly out of concern for content risks, such as shocking sexual or gory images. For the older age groups, mainly the 14- to 16-year-olds, these 'walking away' strategies are also meant to prevent contact risks. One recurring example is that of deactivating one's ask.fm account to avoid getting involved in bullying incidents. Older adolescents are also more motivated to discuss preventive practices with peers: Among 14 to 16-year-olds a common online bullying avoidance strategy is to talk personally to the (potential) perpetrator in order to avoid misunderstandings and further escalation.

All age groups are concerned about privacy settings and personal information. However, younger children tend to avoid disclosing personal information at all times while older adolescents are more familiar with applications to create groups for sharing things privately with a select number of good friends. When it comes to accepting friending requests, the youngest age group tends to interpret the principle of knowing somebody personally in a more limited way. They would rather accept only people whom they have a strong personal connection with: Friends, family, classmates or schoolmates. Older adolescents believe it is OK to accept a friending request from a person they have seen or been talking to once or people with a sufficient number of mutual friends.

4 Discussion

When comparing the four most salient online risks (contact with strangers, online bullying, sexual issues, and misuse of personal data), this study shows that young people favor differing types of preventive measures based on the perceived seriousness and potential harm of the risky situation at hand. Hence, a risk-specific approach is followed in the prevention of problematic online situations. Attempts to control content risks are often based on avoidance strategies. Self-monitoring strategies are perceived as more helpful in protecting oneself from contact risks such as unwanted communication with strangers and misuse of personal information. Finally, instrumental actions are most popular when it comes to thwarting online bullying. These findings match earlier conclusions on coping with online risks: Online bullying causes more harm and is therefore more likely to be tackled with proactive strategies. Content risks such as unwelcome sexual images are perceived as less harmful and avoidance tactics are generally viewed as an adequate response (d'Haenens, Vandoninck, and Donoso, 2013).

The intention to undertake preventive action is often based on stories and advice from others, whether or not in combination with previous, direct or indirect experiences. For instance, having witnessed cases of cyberbullying can motivate a child to preventively deactivate an account. Prevention is not only about avoiding first-time exposure but also the re-occurrence or escalation of an unpleasant situation. Hence, (online) reactive coping models and typologies proved useful to get a better understanding of the preventive approaches used and to build a typology of online risk prevention measures.

In line with studies on coping (Skinner et al., 2003; Skinner and Zimmer-Gembeck, 2007; Šléglová and Černá, 2011; Tenenbaum et al., 2011; Völlink et al., 2013), our results show that the reality of preventive measures is complex and cannot be captured into a dichotomous model. In parallel with more recent coping typologies, a hierarchical management of strategies seems more appropriate. Moreover, several types of strategies identified in a reactive coping context turn out to have a preventive counterpart. The use of so-called *technical instrumental actions* is especially frequent in a preventive context. Similarly, *social support* can be very helpful in preventing unpleasant situations online.

Nevertheless, our results indicate that it makes sense to develop a prevention-specific typology. First of all, compared to reactive coping, the preferred measures are somewhat different in the preventive stage: *Proactive problem-preventing* measures are far more frequent than *support seeking* for instance. This seems to be in line with the idea that preventive measures are virtually always active (Aspinwall and Taylor, 1997). Second, in a preventive context, some types of measures have a different meaning and a different impact. While cognitive measures do not have an obvious positive connotation in the field of coping, we conclude that cognitive strategies such as *planning, strategizing and reflecting* are quite common in children bent on avoiding risky online experiences. And they could be an important step away from mere awareness towards concrete preventive actions. For example, we see how children develop specific suggestions towards parents, teachers and industry to improve online safety. Also, avoidance strategies have a mainly negative connotation as reactive responses (Jacobs et al., 2014; Völlink et al., 2013), but they turn out to be helpful and efficient in a preventive context. We argue that children who consciously choose to stay away from 'problematic' platforms, applications or online practices are actively taking steps to avoid unpleasant experiences.

Findings on the role of age and gender in preventively dealing with problematic online situations reflect findings in the field of reactive coping. As children's range of reactive coping strategies becomes more elaborate as they grow older, it is the oldest age group in our study (14- to 16-year-olds) that evidence the most thorough preventive behavior. This is not surprising since meta-cogni-

tive skills reach a higher developmental stage around this age, which facilitates the development of preventive behavior (Skinner and Zimmer-Gembeck, 2007). In addition, proactive preventive measures are also intensified when related online activities become more popular. As children grow older, online communication practices and activities on SNS are equally on the rise. Correspondingly, their proactive preventive behaviors towards risks related to SNS, online communication and meeting new people online become heightened. Our results indicate that girls are more communicative in both preventive and reactive contexts and more likely to seek social support when faced with problematic situations. As previous studies have suggested, we can assume that it is socially more acceptable for girls to show insecurity and turn to others in an attempt to reduce uncertainty about risky things (d'Haenens, Vandoninck, and Donoso, 2013),

Despite the treasure trove of qualitative evidence at hand and owing to the variety of languages in this cross-country research, all transcripts were reduced to short descriptive codes in the English language.[6] This implies a considerable loss of context. While such cross-country data helped us get a more complete overview of the preventive measures favored by children, it does not allow us to fully grasp the complete argumentation or logic behind a given act or behavior. This method of analysis did not allow us to understand how children's personality characteristics were related to preventive measures, as information on the participants' personality traits, temper and mood was not systematically registered in the descriptive codes in English. The combination of a huge amount of quotes and the limitation to short descriptions resulted in a quantitative-qualitative analysis procedure. Nevertheless, we believe that tree map findings based on the number of quotes within a certain category facilitate comparisons between groups. At the same time, we had the opportunity to use the quotes to understand what was actually going on in every category. Compared to purely quantitative survey results, this availability of background information is of considerable added value. Despite this, we realize that such an analytical approach does not always allow for full-depth investigation. At country-level, researchers will conduct more interpretative analyses on the full transcripts, which will let them know more about the link between children's social contexts and personalities and their preventive measures of choice. In such in-depth analyses researchers could focus on the perceived helpfulness of preventive measures. Especially, the investigation of how cognitive measures like planning, strategizing and reflecting contribute to a sense of helpfulness or

6 See the general methodology section of the qualitative EU Kids Online phase.

effectiveness in order to understand the process from awareness to concrete preventive action. Disengagement indicates that in some situations young people do not believe that the risk can be avoided. In further research, youngsters, who are inclined to disengagement, should be identified to better understand why they believe preventive measures are useless.

The development of a risk-specific preventive measures typology is helpful for developing awareness raising efforts, whether these are nationwide campaigns, school-based initiatives or personal discussions between children and adults on how to avoid unpleasant situation online. It helps initiators of preventive actions to allocate resources and efforts. For researchers, these insights on preventive measures are valuable for the development of preventive measures scales to be used in quantitative surveys.

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References

Aspinwall, L., & Taylor, S. 1997. A stitch in time: Self-regulation and proactive coping. *Psychological Bulletin*, 121(3), 417–436.

Cassel, C., & Symon, G. 2004. *Essential guide to qualitative methods in organizational research*. London: Sage Publications.

D'Haenens, L., Vandoninck, S., & Donoso, V. 2013. How to cope and build online resilience? London: EU Kids Online Network.

Folkman, S., & Moskowitz, J. 2004. Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–775.

Guest, G., MacQueen, K., & Namey, E. 2012. *Applied thematic analysis*. London: Sage Publications.

Jacobs, N., Dehue, F., Völlink, T., & Lechner, L. 2014. Determinants of adolescents' ineffective and improved coping with cyberbullying: A Delphi study. *Journal of Adolescence*, 37, 373–385.

Kowalski, R., Limber, S., & Agatston, P. 2008. *Cyber bullying: Bullying in the digital age*. Malden, MA: Blackwell.

Lazarus, R., & Folkman, S. 1984. *Stress, appraisal and coping*. New York, NY: Springer-Verlag.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. 2011. Risks and safety on the internet: The perspective of European children: Full findings and policy implications from the EU Kids Online survey of 9–16-year-olds and their parents in 25 countries. EU Kids Online, Deliverable D4. London: EU Kids Online Network.

Livingstone, S., Kirwil, L., Ponte, C., & Staksrud, E. 2013. *In their own words: What bothers children online?* London: EU Kids Online Network.

Masten, A. 2007. Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, 19(3), 921–930.

Parris, L., Varjas, K., Meyers, J., & Cutts, H. 2012. High school students' perceptions of coping with cyberbullying. *Youth & Society*, 44(2), 284–306.

Perren, S., Corcoran, L., Cowie, H., Dehue, F., Garcia, D., Mc Guckin, C., …, & Völlink, T. 2012. Tackling cyberbullying: Review of empirical evidence regarding successful responses by students, parents and schools. *International Journal of Conflict and Violence*, 6(2), 283–293.

Roth, S., & Cohen, L. J. 1986. Approach, avoidance and coping with stress. *American Psychologist*, 41, 813–819.

Skinner, E., Edge, K., Altman, J., & Sherwood, H. 2003. Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129, 216–269.

Skinner, E., & Zimmer-Gembeck, M. 2007. The development of coping. *Annual Review of Psychology*, 58, 119–126.

Šleglova, V., & Černá, A. 2011. Cyberbullying in adolescent victims: Perception and coping. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 5(2).

Šmahel, D., Wright, F. M., & Černíková, M. 2014. Classification of online problematic situations in the context of youths' development. *Communications: European Journal of Communication Research*, 39(3).

Tenenbaum, L. S., Varjas, K., Meyers, J., & Parris, L. 2011. Coping strategies and perceived effectiveness in fourth through eighth grade victims of bullying. *School Psychology International*, 32(3), 263–287.

Vandoninck, S., d'Haenens, L., & Donoso, V. 2010. Digital literacy of Flemish youth: How do they handle online content risks? *Communications: European Journal of Communication Research*, 35, 397–416.

Völlink, T., Bolman, C., Dehue, F., & Jacobs, N. 2013. Coping with cyberbullying: Differences between victims, bully-victims and children not involved in bullying. *Journal of Community & Applied Social Psychology*, 23, 7–24.

Völlink, T., Bolman C., Eppingbroek, A., & Dehue, F. 2013. Emotion-focused coping worsens depressive feelings and health complaints in cyber-bullied children. *Journal of Criminology*. Article ID 416976, 10 pages, doi:10.1155/2013/416976